2 BACKGROUND

2.1 General Site Information

The Glade Road facility is located in a rural area approximately 5 miles north of Pasco, Washington (Figure 1). The site occupies an area of approximately 20 acres that is located near the center of Section 25, Township 10 North, Range 29 East, Willamette Meridian. The site address is 3482 Glade Road North.

The site is currently zoned as medium industrial (I2), and is surrounded by a fence to prevent access to the public. The site surface slopes gently downward to the south and west. Surface water runoff from the site drains to the west toward Glade Road North. During most rainfall events, surface water puddles near the equipment repair shop (Figure 2). During heavy rainfall events, the runoff drains into ditches along the east side of Glade Road North. The ditch located north of the site driveway drains into a stream within the Esquatzel Coulee, approximately 400 feet to the north of the site (Figure 1). The surface water that enters the ditch located south of the driveway collects in the ditch and eventually evaporates.

The nearest surface water bodies are a network of intermittent ponds, marshes, and a stream within the Esquatzel Coulee, located at least 400 feet to the west and north of the site. Wetlands are located within the Esquatzel Coulee approximately 250 feet northwest of the site and 1,000 feet north of the site (Washington Department of Fish and Wildlife, 1999). The Columbia River is located approximately 8 miles to the west-southwest of the site.

From 1973 to the present, the site has been used for fertilizer and pesticide storage and distribution, and equipment and vehicle maintenance and storage. Until 1988, petroleum hydrocarbon storage and truck fueling operations were also conducted on site. PureGro Company (PureGro) leased the site from Burlington Northern Santa Fe Railroad (BNSF) from 1973 to 1985. In 1985, PureGro purchased a parcel approximately 20 acres in area, including most of the property occupied by the facility and a vacant adjacent property along Glade Road North (current equipment storage and truck parking area). A strip of property approximately 200 feet wide along the BNSF tracks, which includes the eastern edge of the site, is still leased railroad right-of-way (Figure 2).

The PureGro operations consisted of four main PureGro businesses: 1) the Glade retail fertilizer and pesticide operation located in the northeast part of the site, 2) the Leaf Life specialty fertilizer products operation located in the southeast part of the site, 3) the northwest regional trucking operation located near the center of the site, and 4) the northwest regional office located in the southwest part of the site (Figure 2). The western part of the site was leased to Aero Air, an applicator of agricultural chemicals by helicopter. In 1993, the site was sold to CPS, who merged with Western Farm Service, Inc. (WFS), in 1995. CPS and WFS are subsidiaries of Agrium, Inc. The four site operations have been altered or discontinued since the sale of PureGro to CPS.

Products currently or historically stored at the site include compounds from the organochlorine, carbamate, triazine, organophosphorus, synthetic pyrethoid, and sulfony urea chemical families, nitrogen- and phosphorus-based fertilizers, and petroleum hydrocarbons. There is limited information about previous chemicals stored at the site; however, according to facility personnel, discontinued products that may have been stored at the site include dinoseb, toxaphene, and DDT (Woodward-Clyde Consultants, 1992). Sulfuric acid usage and storage was discontinued in 1996 (EMCON, 1998). The locations of the current and former product storage areas are shown on Figure 2.

Structures currently on site mainly consist of 2 office buildings, 5 chemical and/or fertilizer storage warehouses, an equipment repair shop, and over 15 aboveground chemical, fertilizer, or rinse water storage tanks (Figure 2). Concrete containment berms surround all of the liquid storage tanks. There are two on-site wells (Well #1 and Well #2) that supply production water to the site (Figure 2).

2.2 Site Geology and Hydrogeology

Beneath the gravel, asphalt, or concrete surface cover at the site, the uppermost geology typically consists of approximately 4 to 18.5 feet of sandy silt to silt. Locally, up to 12 feet of silty sand to sand occurs on top of the sandy silt to silt unit. The sandy silt to silt unit is underlain by a lower silty sand to sand unit that coarsens downwards to gravelly sand. This silty sand to sand unit (including the gravelly sand) ranges from approximately 5 to 23 feet thick. The silty sand to sand unit overlies a cemented silt unit that is approximately 15 to 23 feet thick. Beneath the western part of the site, the cemented silt unit is underlain by a silty sand unit that is approximately 3 to 3.5 feet thick. The silty sand unit is underlain by a sandy gravel to gravel unit that is at least 11 feet thick (MFA, 2001a).

Unconfined groundwater beneath the site occurs within the silty sand to sand unit located directly above the cemented silt unit, and appears to be perched on top of the cemented silt unit. Deeper semi-confined groundwater occurs within the silty sand and the sandy gravel to gravel units beneath the cemented silt. The general groundwater flow direction

of the unconfined aquifer is to the southwest. The general groundwater flow direction of the semi-confined aquifer is to the south. There is a downward vertical gradient from the unconfined aquifer to the deeper semi-confined aquifer (MFA, 2001a).

2.3 Contaminants of Concern

Based on the results of previous remedial investigation and soil remediation activities at the site, the area-specific soil contaminants of concern (COCs) for direct contact and/or protection of groundwater include the following:

- Former open-top tank area: disulfoton and 2,4-D
- Former wash pad: 2,4-D, dinoseb, and dicamba
- 21-0-0-7 fertilizer spill area: dieldrin and heptachlor
- Former gasoline underground storage tank (UST) area: total petroleum hydrocarbons as gasoline (TPH-G)
- Former helicopter spray office building area: toxaphene
- Former helicopter pad area: toxaphene

The locations of the former open-top tank, the former wash pad, the 21-0-0-7 fertilizer spill area, the former gasoline UST, and the former helicopter spray office building are shown on Figure 2. The locations of the soil samples that contained soil COC concentrations greater than the site cleanup levels established in the CAP are shown on Figures 2 and 3. Based on the previous remedial investigations results, the groundwater COCs at the site are dinoseb and nitrate (MFA, 2002). The estimated areas of dinoseb-impacted groundwater and nitrate-impacted groundwater that exceed the site cleanup levels established in the CAP are shown on Figure 4. The nature and extent of the soil and groundwater COCs are detailed in MFA's *Final Feasibility Study Report*, dated August 16, 2002, and in MFA's *Additional Subsurface Assessment Report, Former Wash Pad Area*, dated July 25, 2003.